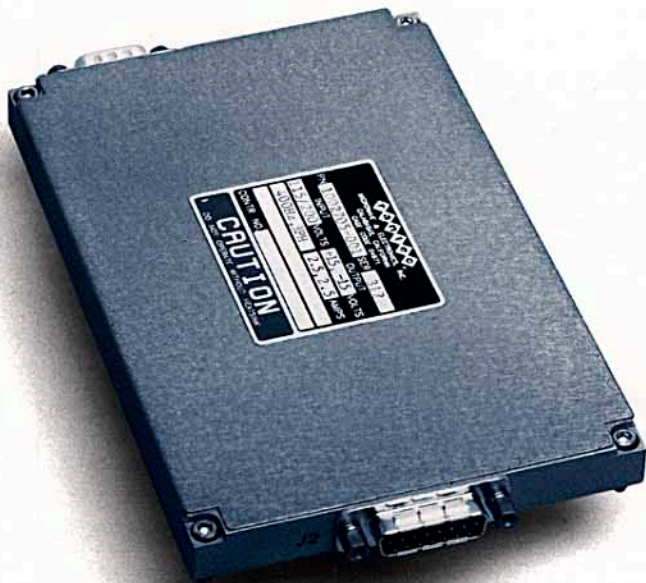


**High Density
Military Power Supplies
Dual Output
75 Watts
3 ϕ /400 Hz
SERIES HD 7530D**



SERIES HD7530D

Features

- 400 Hz three-phase or 270 VDC input
- 75-watt dual output
- Overcurrent limit and assessment
- Overvoltage protection
- MIL-C-24308 I/O connectors
- 95°C baseplate operating temperature
- Tri-Service qualified
- Full-MIL components
- MTBF to 125,000 hours

Description

Rantec's Series HD 7530D high-density power supplies, utilizing current mode, constant-frequency switching technology, provide dual output capability to 75 watts. Accommodation is provided for an external storage capacitor to extend the output voltage hold-up time during the loss of input prime power. Full component derating, in accordance with NAVMAT P-4855-1A, is in effect at a baseplate temperature of 95°C.

The Series HD 7530D interfaces with three-phase, 400 Hz or 270 VDC prime power in accordance with MIL-STD-704. It incorporates an internal EMI filter in compliance with MIL-STD-461C, Part 2, including CE01. Capability is provided to externally synchronize the power supply switching frequency to a system clock. The Series HD 7530D is field repairable.

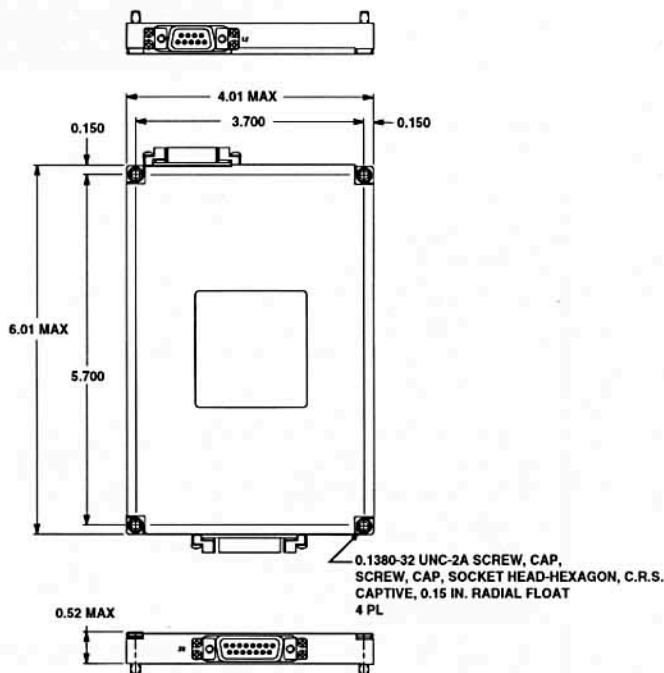
Rantec Series HD 7530D power supplies are qualified in accordance with the following applicable military specifications.

Applicable Military Specifications

- MIL-STD-704D Aircraft Electrical Power
- MIL-E-5400T Electric Equipment/General Aerospace
- MIL-E-16400G General Equipment/Specified for Naval Shipboard, Shore Communication and Navigational Equipment
- MIL-E-4158 General Electronic Equipment Specification
- MIL-STD-461C Electromagnetic Emission and Susceptibility Requirements
- MIL-STD-454J General Requirements for Electronic Equipment
- NAVMAT P4855-1A Naval Power Supply Reliability Design and Manufacturing Guidelines

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Output Rating

Voltage	Current	Model
±12V	±3A	HD 7532D
±15V	±2.5A	HD 7533D

Recommended Mating Connector
(Cannon or MIL-C-24308)

J1 (Input)	J2 (Output)
M24308/1-1 or 2-1	M24308/3-2 or 4-2

Note: Dimensions are for reference only.
Contact factory for details.

Specifications

Input

185-215 VAC L-L, 3 ϕ 400 Hz or 250-290 VDC (reverse polarity protected)

Input Power Characteristics

To MIL-STD-704D, including transients of 138 to 312 volts

Output Ratings

See output rating table for details. Other V/A combinations within same power rating are available. Consult the factory.

Voltage adjust (internal)

±3% of the nominal output voltage. Set point accuracy is 0.2% of the output voltage.

Dynamic load regulation

Maximum deviation is 5% from the output voltage for a load change of 0.75 full load to full load in either direction. Recovery is within 50 μ s.

Static Regulation (line and load combined)

±1% maximum

Ripple and Noise, p-p Maximum (10 Hz to 20 MHz)

75 millivolts

Output Overshoot

5% maximum turn-on or turn-off overshoot; power supplies have in-rush surge limiting protection and soft start circuitry.

Remote On/Off

Open collector compatible input is referenced to the output return terminal. "LO" turns supply off, "HI" (or open) turns supply on.

Overload Protection

The output is protected against overload and short circuit. The output current is limited to 5 amperes. The output recovers automatically after a load fault is removed.

Overvoltage Protection

Shutdown type, with trip-point is set at a maximum of 20% above nominal output voltage. It is reset by cycling the input power.

EMI

To MIL-STD-461C, part 2 requirements CE01, CE03, CS01, CS02, CS06, RE02 and RS03

Switching Frequency

Fixed 250 KHz (nominal)

External Synchronization

5 volt p-p, 260-330 KHz square wave

Efficiency

Minimum 65%

Temperature Coefficient

±0.02%/°C max

Operating Temperature

-55°C to +95°C combined baseplate and ambient per MIL STD-810, Method 501.1, Proc.II and Method 502.1, Proc. 1

Storage Temperature

-62°C to +95°C

Cooling

Conductively cooled baseplate with maximum temperature of +95°C

Humidity

MIL-STD-810E, Method 507.3, Proc. I, Cycle 3

Construction

Fully enclosed, repairable, modularized construction; enclosure is aluminum with chromate conversion coating per MIL-C- 5541.

I/O Connection

Standard type per MIL-C-24308 (see table for mating connectors)

Weight

Weight is 16 oz., maximum

Altitude

To 70,000 feet

Shock

MIL-S-901D, High Impact, Grade A, Type A, Class I

Vibration/SINE

MIL-E-5400T, curve IVa, modified to 0.20 in. d.a. from 5 to 14 Hz and 2G from 14 to 33 Hz

Vibration/Random

MIL STD-810E method 514.4, Category 10 - Minimum Integrity Test

Salt Atmosphere

MIL-STD-810E, Method 509.3, Proc. I - Aggravated

MTBF

125,000 hours, calculated at 85°C baseplate for a ground-fixed environment per MIL-HDBK-217E. Component derating is in accordance with NAVMAT P4855-1A.

Rantec reserves the right to change design and specifications at any time without prior notice. It is Rantec's policy to improve products as new techniques and components become available.



Power Systems Inc.